

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/056608 A1

(51) International Patent Classification⁷: **C08B 37/00**

(21) International Application Number:
PCT/US2004/040726

(22) International Filing Date: 6 December 2004 (06.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/526,797 4 December 2003 (04.12.2003) US

(71) Applicant (*for all designated States except US*): **UNIVERSITY OF UTAH RESEARCH FOUNDATION** [US/US];
615 Arapen Drive, Suite 310, Salt Lake City, UT 84108 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **PRESTWICH, Glenn, D.** [US/US]; 1500 Sunnydale Lane, Salt Lake City, UT 84108 (US). **SHU, Xiao, Zheng** [CN/US]; 25 South 1100 East, No. 15, Salt Lake City, UT 84102 (US). **LIU, Yanchun** [CN/US]; 230 North F. Street, Apt. 19, Salt Lake City, UT 84103 (US).

(74) Agents: **VILLANUEVA, Lawrence, A** et al.; Needle & Rosenberg, P.C., Suite 1000, 999 Peachtree Street, Atlanta, GA 30309-3915 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

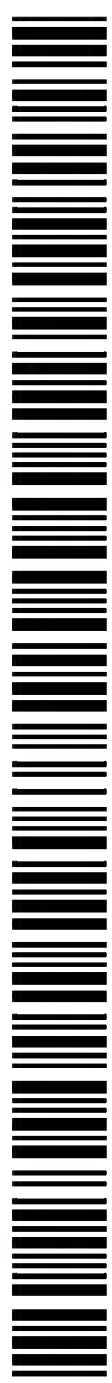
Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MODIFIED MACROMOLECULES AND METHODS OF MAKING AND USING THEREOF

(57) Abstract: Described herein are compounds such as macromolecules that have been modified in order to facilitate crosslinking by introduction of at least one hydrazide-reactive group and /or aminooxy-reactive group, and methods of making and using thereof for scar-free wound healing, for delivering bioactive agents or living cells, for preventing adhesion after a surgical procedure or for bone and cartilage repair. The macromolecule can be an oligonucleotide, a nucleic acid, a polypeptide, a lipid, a glycoprotein, a glycolipid, a polysaccharide, a protein or a synthetic polymer, preferably a glycosaminoglycan like hyaluronan.



WO 2005/056608 A1